CLAIMS

I/We claim:

[c1]   1.   A method in a distribution system for distributing images to client systems, the method comprising:

when a communication is received from the client system via a communications link, recording an indication that the client system communicated via the communications link; and

when an image is to be distributed to a client system,

determining whether a recorded indication indicates that the client system has communicated via the communications link;

when it is determined that the client system has communicated via the communications link, sending the image to the client system via the communications link; and

when it is determined that the client system has not communicated via the communications link, indicating to send the image to the client system via a mechanism other than the communications link.

[c2]   2.   The method of claim 1 wherein the communications link is the Internet.

[c3]   3.   The method of claim 1 wherein the mechanism other than the communications includes a physical computer-readable medium.

[c4]   4.   The method of claim 3 wherein the computer-readable medium includes a disc-based medium.

[c5]   5.   The method of claim 3 wherein when it is determined that the client system has not communicated via the communications link, recording the image on the computer-readable medium.

[c6]   6.   The method of claim 1 wherein the recorded indication includes a time associated with the received communication from the client system and wherein it is determined that the client system has communicated via the communications link if the time associated with the last received communication for the client system is within a certain period.

[c7]   7.   The method of claim 1 wherein when the sending of the image to the client system via the communications link fails, sending the image to the client system via a mechanism other than the communications link.

[c8]   8.   The method of claim 1 wherein the communication received from the client system is a heartbeat that is sent periodically by the client system.

[c9]   9.   A distribution system for distributing images for display by client systems, the distribution system comprising:

a server component with

an image store containing images;

a customer store containing information relating to each customer of the distribution system, the information including an identification of a client system of the customer and criteria of the customer;

an image packaging component that periodically creates a package of images for each client system of a customer based on criteria associated with the customer; and

a distribution component that sends packages of images to client systems via a communications link on a periodic basis in response to receiving a heartbeat communication; and

a client component with

a heartbeat component that sends heartbeat communications to the server component via the communications link;

a receive package component that receives packages sent by the server component; and

a display component that displays the images of the received packages.

[c10]   10.   The distribution system of claim 9 including:

an customer interface component that allows a customer to provide information relating to its client system.

[c11]   11.   The distribution system of claim 10 wherein the customer interface component is a web-based interface.

[c12]   12.   The distribution system of claim 10 wherein the customer interface component updates the customer store.

[c13]   13.   The distribution system of claim 10 wherein the information includes preferences of the customer on images to be sent to the client system of the customer.

[c14]   14.   The distribution system of claim 9 wherein the communications link is the Internet.

[c15]   15.   The distribution system of claim 9 wherein each client system has a unique identifier.

[c16]   16.   The distribution system of claim 15 wherein each heartbeat communication by a client system includes the unique identifier of the client system.

[c17]   17.   The distribution system of claim 9 wherein the server component includes:

a tracking component that receives usage information from client system.

[c18]   18.   The distribution system of claim 9 wherein the server component includes:

a software update component that sends software updates to client systems.

[c19]   19.   A method for communicating between a server system and client systems for image distribution, the method comprising:

for each client system, receiving heartbeat communications on a periodic basis from that client system; and

upon receiving a heartbeat communication from a client system,

identifying response for the client system, the response being one of no action, send information, retrieve information, and execute a command;

setting a state of the client system in accordance with the identified response;

sending the identified response to the client system; and

upon receiving subsequent heartbeat communications from the client system, ensuring that the heartbeat communications is in accordance with the state of the client system.

[c20]   20.   The method of claim 19 wherein the send information response identifies that image display information is to be sent.

[c21]   21.   The method of claim 19 wherein the send information response identifies that usage information of the client system is to be sent.

[c22] 22. The method of claim 19 wherein the send information response identifies an address to which the information is to be sent.

[c23] 23. The method of claim 19 wherein the retrieve information response identifies a package of images.

[c24] 24. The method of claim 19 wherein the retrieve information response identifies a software update.

[c25] 25. The method of claim 19 wherein the retrieve information response identifies a command.

[c26] 26. The method of claim 19 wherein the retrieve information response identifies an address from which the information is to be retrieved.

[c27] 27. The method of claim 19 wherein the retrieve information response identifies a frequency for sending heartbeat communications.

[c28] 28. The method of claim 19 wherein including dynamically controlling rate of transfer of information between the server system and the client systems.

[c29] 29. The method of claim 19 wherein the information that is transferred is encrypted.

[c30] 30. The method of claim 19 including when a transfer of information is interrupted and when the transfer starts up again, continuing the transfer at the point of interruption.

[c31] 31. The method of claim 19 where each client system discovers the server system by check a name-based address and, if unsuccessful, checking an IP-based address.

[c32]   32.   The method of claim 19 wherein a heartbeat communication includes an IP address and unique identifier of the client system.

[c33]   33.   The method of claim 19 wherein a heartbeat communication includes an identifier last supplied by the server system.

[c34]   34.   The method of claim 19 wherein the server system dynamically specifies a heartbeat communication frequency for a client system.

[c35]   35.   The method of claim 19 wherein a subsequent heartbeat communication includes an acknowledgement of the response, a request to resend the response, or a busy indication.

[c36]   36.   The method of claim 19 wherein a subsequent heartbeat communication includes a unique operation identifier and an operation status.